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Understanding the Very High Energy Emission from the possible PWN 2HWC J2019+367 with HAWC CHAD BRISBOIS, PETRA HUENTE-MEYER, Michigan Technological Univ, HAWC COLLABORATION — In the TeV sky, the Cygnus region is one of the brightest areas outside of the inner galaxy. Because it is an active extended star-forming region, it has been heavily studied for decades, making it perfect target for multi-wavelength studies. Originally discovered in 2007 by the Milagro Observatory, the TeV gamma-ray source MGRO J2019+37 is also detected by The High Altitude Water Cherenkov Observatory (HAWC) as 2HWC J2019+367. HAWC is a wide field-of-view high duty cycle gamma-ray telescope located in Sierra Negra, Mexico with currently unrivaled sensitivity at the highest photon energies. Most recently, HAWC has observed gamma-ray emission beyond 50 TeV for 2HWC J2019+367. This source has long been thought to be associated with PSR J2021+3651 but previous studies have never been able to conclusively prove the association. In this work, we present detailed spectral and morphological studies of 2HWC J2019+367 at the highest energies using the latest data from the HAWC Observatory.

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